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मानक

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IS 13145 (1993, Reaffirmed 2010): Spices and Condiments--Methods of Sampling (First Revision). UDC 664.5 : 620.113



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Bhartrhari—Nitiśatakam

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REAFFIRMED 1998

IS 13145 : 1993

भारतीय मानक
मसाले — नमूने लेने की पद्धतियाँ
(पहला पुनरीक्षण)

REAFFIRMED
2010

Indian Standard
SPICES AND CONDIMENTS —
METHODS OF SAMPLING
(*First Revision*)

UDC 664.5 : 620.113

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BUREAU OF INDIAN STANDARDS
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NEW DELHI 110002

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Price Group 2

FOREWORD

This Indian Standard (First Revision) was adopted by the Bureau of Indian Standards, after the draft finalized by the Spices and Condiments Sectional Committee had been approved by the Food and Agriculture Division Council.

The object of this standard is to prescribe sampling procedure for spices and condiments in different forms, such as, whole, seeds and powder. It covers the material in bulk as well as packed in containers. IS 1797 : 1973 'Methods of sampling and test for spices and condiments' was first published in 1973, and was subsequently revised in 1985 as 'Methods of test for spices and condiments', deleting methods of sampling. It was decided to formulate a separate standard on methods of sampling for spices and condiments. The scale of sampling has been based on the statistical analysis of a large amount of data. The analysis of data revealed that the maximum co-efficient of variation was 10 percent in respect of moisture content which was used as a basis for estimating the sample size for a lot. The quantity of material required in the gross sample of laboratory sample for a number of spices and condiments has been provided. The provisions of sampling have also been brought in line with ISO 948 : 1980 'Spices and condiments — Sampling', issued by the International Organization for Standardization (ISO).

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 1960 'Rules for rounding off numerical values (revised)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

AMENDMENT NO. 1 NOVEMBER 1994
TO
IS 13145 : 1993 SPICES AND CONDIMENTS —
METHODS OF SAMPLING

(*First Revision*)

(*Page 1, clause 2*) — Substitute the following for the existing matter:

‘IS 4905 : 1968 Methods for random sampling is a necessary adjunct to this standard.’

[*Page 2, Table 2, Sl No. (v), col 5*] — Substitute ‘250 g’ for ‘200 g’:

(FAD 9)

Reprography Unit, BIS, New Delhi, India

Indian Standard

SPICES AND CONDIMENTS — METHODS OF SAMPLING

(*First Revision*)

1 SCOPE

This standard prescribes the sampling procedure for spices and condiments in different forms, such as, whole, seeds and powder. It covers the material in bulk as packed in containers.

2 REFERENCES

The following Indian Standards are necessary adjuncts to this standard:

<i>IS No.</i>	<i>Title</i>
1797 : 1985	Methods of test for spices and condiments
4905 : 1968	Methods for random sampling

3 TERMINOLOGY

For the purpose of this standard, the following definitions shall apply.

3.1 Consignment

The quantity of spices or condiment despatched or received at one time and covered by a particular contract or shipping document. It may be composed of one or more lots.

3.2 Lot

A stated quantity of the material in a consignment, presumed to be of uniform characteristics and offered for inspection at one time.

3.3 Increment

A small quantity of spice or condiment taken from a single position in the lot.

3.4 Gross Sample

The quantity of spice or condiment obtained by combining and mixing the increments taken from a specific lot.

3.5 Laboratory Sample

The quantity of spice or condiments obtained from gross sample for analysis.

3.6 Composite Sample

The quantity of spice or condiment obtained by mixing thoroughly an approximately equal quantity of material taken from each of the laboratory

sample. The quantity of material in composite sample shall be four times the quantity required for carrying out all the tests according the relevant Indian Standards.

4 GENERAL

4.1 Sampling shall be carried out by authorized person(s) as per agreement between the buyer and the seller, unless otherwise provided by the law.

4.2 In taking, preparing, storing and handling the samples, care shall be taken that the properties of the product are not affected. The following precautions and directions shall be observed.

4.2.1 Samples shall be taken in a protected place free from any objectionable odour and not exposed to damp air, dust or soot.

4.2.2 The sampling apparatus shall be clean and dry.

4.2.3 Precautions shall be taken to protect the samples, the product being sampled and the sample containers from adventitious contamination.

5 SAMPLING INSTRUMENT

5.1 A suitable sampling instrument, depending on the nature of the material shall be used. However, the following sampling instruments are recommended.

5.1.1 Sampling from Bags

Sack-type spears or triers.

5.1.2 Mixing and Dividing

Shovels and dividing apparatus.

6 SCALE OF SAMPLING

6.1 All the containers in a single consignment of spice or condiment pertaining to the same variety year of production and grade and not exceeding 1 000 containers shall constitute a lot. If a consignment is declared or is known to include different varieties, different classes or different years of production, or if it appears that the lot is heterogeneous, the containers holding products of similar characteristics shall be grouped together, and each group obtained shall constitute a separate lot.

6.2 For ascertaining the conformity of material in a lot to the requirements given in the individual material specification, samples shall be tested from each lot separately.

6.3 The number of containers to be taken from a lot shall depend on the size of the lot and shall be in accordance with Table 1.

Table 1 Number of Containers to be Selected

(Clauses 6.3 and 11.1)

Lot Size (1)	Sample Size (2)
Up to 50	5
51 to 100	8
101 to 300	13
301 to 500	20
501 to 1 000	32

6.3.1 These containers shall be selected at random from the lot. In order to ensure the randomness of selection, procedures of simple random sampling or systematic sampling as given in IS 4905 : 1968 may be followed.

6.3.2 When the product is in movement, samples may be taken at the time of loading or unloading of the containers.

6.3.3 Increments shall be taken by means of an appropriate sampling instrument from different parts of each container selected.

7 GROSS SAMPLE AND LABORATORY SAMPLE

7.1 From each of the containers selected from the lot according to 6.3, equal number of increments shall be taken and thoroughly mixed so as to form the gross sample. The increments, from each of the containers sampled from the lot, shall be taken from different sides and depths (top, middle and bottom) so as to obtain representative quantity of material in the gross sample. One sample shall be for the buyer, another for the supplier, third for the referee and fourth sample will be sent to laboratory as laboratory sample. The referee sample bearing the seals of the buyer and seller (or their representatives) shall be kept at a place acceptable to both the parties so as to be used in case of dispute.

7.2 If required, the containers selected from the lot shall be completely emptied and content mixed before taking increments.

7.3 If the containers are packed in case, 5 per cent of the cases subject to minimum of 2 shall be selected and approximately equal number of containers selected from each so as to constitute the requisite sample size.

7.4 The quantity of material obtained in the gross sample shall be suitably reduced by the procedure of coning and quartering so as to obtain the laboratory sample.

7.4.1 For coning and quartering, the material shall be heaped into the shape of a cone by pouring scoopful of the material one after another at the apex of the cone till entire gross sample has been coned. The material shall be allowed to slide down the sides of the cone only under the influence of gravity. The cone shall be evenly flattened so that it forms a low circular pile. The pile shall be cut into four quarters along two diameters which intersect at right angles, one pair of opposite quarters shall be retained and the other one rejected. The procedure shall be repeated till the laboratory sample of requisite size is obtained.

7.5 The quantity of material in the gross sample and laboratory sample shall be in accordance with 7.1. However, for some spices and condiments, the recommended quantities are given in Table 2.

Table 2 Recommended Quantities in Gross and Laboratory Samples for Various Spices and Condiments

Sl No.	Name of Spice and Condiments	Gross Sample	Laboratory Sample	
			Whole	Ground
(1)	(2)	(3)	(4)	(5)
i)	Black pepper	1 kg	1 kg	250 g
ii)	Chillies	1 kg	1 kg	250 g
iii)	Cardamom (small and large)	1 kg	500 g	250 g
iv)	Ginger and turmeric	5 kg	2 kg	250 g
v)	Powders (including curry powder)	800 g	—	200 g
vi)	Saffron	100 g	—	15 g
vii)	Vanilla	100 g	—	25 g
viii)	Others (including seed spices)	1 kg	—	250 g

7.6 In the case of cardamom for estimation of litre mass, a sample of 200 g shall be taken and the result shall be multiplied by 5 to get the required mass per litre.

7.7 To estimate light berries in black pepper by flotation method, a sample of 100 g shall be taken and multiplied by 10 to get the required mass per litre.

7.8 Bulk Sampling

Whenever the material is supplied in bulk, the material of the same variety, same year of production and same grade, offered for inspection at a time shall constitute a lot. Equal number of

increments shall be taken from different sides and depths of each heap in the lot. The increments from different heaps shall be thoroughly mixed so as to constitute the gross sample from the lot. The gross sample shall be reduced to laboratory sample by the procedure of coning and quartering.

8 PACKAGING AND LABELLING OF LABORATORY SAMPLES

8.1 Packaging

The laboratory samples shall be placed in clean, dry and airtight glass containers or other suitable containers which have no effect on the properties of the product. The sample containers shall be of such a size that they are almost completely filled by the sample. Each sample by means of a stopper or other suitable closure, and sealed in such a way that it cannot be opened and re-sealed without detection.

8.2 Labelling

The laboratory samples shall be labelled to give the following information:

- a) Name of the product,
- b) Grade,
- c) Variety,
- d) Date and place of sampling,
- e) Code number of lot/batch,
- f) Indication as to source of manufacturer,
- g) Date of packing or manufacturing,
- h) Date of expiry, and
- j) Signatures and seal of the sampling officer.

8.2.1 If any infestation is found at the time of sampling, the record of this shall be included in the details of sampling given on the sample container.

9 STORAGE AND DESPATCH OF SAMPLES

9.1 The laboratory samples shall be stored in such a manner that the temperature of the pro-

duct does not vary unduly from the normal atmospheric temperature. Samples which are required to be kept for a long time shall be stored in a cool and dark place.

9.2 Laboratory samples on which the analysis is to be carried out shall be despatched to the testing laboratory as soon as possible.

10 SAMPLING REPORT

If a sampling report is prepared, besides giving the usual information it shall make reference to the condition of the spice or condiment sampled, technique applied, if this is other than that described in this standard, and to any circumstances that may have influenced the sampling.

11 NUMBER OF TESTS AND CRITERIA FOR CONFORMITY

11.1 The material in each of the container selected according to Table 1 shall be examined for visual requirements. The material in any of the container failing to satisfy these requirements shall be considered as defective. The lot shall be deemed to have satisfied these requirements, if the material in each of the containers selected conform to the requirements given in the relevant Indian Standards.

11.2 All the tests given in individual material specification shall be carried out on the laboratory sample. The lot shall be declared as conforming to the requirements of the relevant Indian Standards if all the test results on the laboratory sample meet the corresponding requirements.

11.3 The lot having been found satisfactory as in **11.1** and **11.2** shall be further tested on the basis of a composite sample for other requirements given in the relevant Indian Standards. All the test results on the composite sample shall meet the relevant specification requirements for the lot to be declared as conforming to the requirements of these specifications.

